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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Frank Miller

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EXAMINER

GORMAN, DARREN W

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/534,331	<b>Applicant(s)</b> MILLER ET AL.	
	<b>Examiner</b> Darren W. Gorman	<b>Art Unit</b> 3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 May 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

1. The replacement drawing sheet showing Figure 1, 2A and 2B, and the new drawing sheet showing Figures 3A-3C were received on January 22, 2009. These drawings are not acceptable and have not been entered. With respect to the changes made in Figures 2A and 2B, the attempted addition of the line denoted by reference number 13 is unclear. It appears that Applicant is trying to demonstrate an “axis of symmetry” for the atomization tube in order to support the newly added claim limitations. Such an axis was not clearly or fully disclosed in the original disclosure of the instant application, thus it constitutes new matter. It is also noted that reference number “13” does not appear in the specification. With respect to Figures 3A-3C, these drawings also constitute new matter. The specifically shown structures and relative dimensions depicted in Figures 3A-3C were not disclosed in the originally filed specification, thus the drawings will not be entered.

2. The drawings remain objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the feature(s) canceled from the claim(s).

- As recited in claim 16, the drawings do not show an inner diameter of the first section being greater than an inner diameter of the second section.
- As recited in claim 23, the drawings do not clearly show the wall thickness of the first section equaling the wall thickness of the second section.

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- As recited in claim 24, the drawings do not show diameters of the bore holes increasing in a downstream direction.

No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The amendment filed January 22, 2009 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The six (6) new paragraphs added to the

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specification represent a departure from the originally filed disclosure, particularly in view of the attempt to add new drawings 3A-3C (see paragraph 1 above), since the specifically shown structures and relative dimensions depicted in Figures 3A-3C with respect to the newly added reference characters (i.e. ID1, ID2, WT1, WT2) were not disclosed in the originally filed specification.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 14-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The recitation added to claim 14, “wherein the atomization tube is formed in one piece having only one axis of symmetry” is new matter and represents a departure from the originally filed disclosure. First, the recitation wherein the atomization tube is formed in one piece was not adequately disclosed in the originally filed disclosure. There is no expressed disclosure regarding this recited feature, nor would it be an inherent feature of the disclosed apparatus as originally filed. Moreover, according to the disclosure, fuel from the fuel injector (2) is mixed with air from the air inlet (5) within the adapter portion (3) of the device before it is

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metered into the tube (4). For this reason, atomization is commencing prior to the fuel/air mixture being released into tube (4). Thus, one could say that the disclosed adapter (3) is part of the atomization tube. If the adapter is part of the atomization tube, then the disclosed atomization tube may be formed in more than one piece. With respect to the recitation wherein the atomization tube has “only one axis of symmetry”, such was not disclosed in the original disclosure. The original specification does not discuss any axis of symmetry of the atomization tube. In fact, no particularly defined axis is even identified regarding the atomization tube. Further, the recited term “only” with respect to the “axis of symmetry” is essentially a negative limitation which can be rephrased to mean that the atomization tube “does not have more than one axis of symmetry”. There is no expressed or inherent support in the originally filed disclosure for such a limitation.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 14-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 14, the recitation regarding the atomization tube “having only one axis of symmetry” is indefinite. No axis in the claim or in the disclosure regarding the atomization tube has been defined, thus it is not clear what axis of the tube that this recitation is referring to.

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***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 14-23 rejected, as well as the Examiner can understand the claims, under 35 U.S.C. 102(b) as being anticipated by Son, EP 0085445A2.

Son (see Figure 1) shows a device including a fuel injector (5); an atomization tube (1) with the claimed features of the first and second sections; an air inlet (4); and at least one metering aperture (downstream end of chamber 2); wherein the atomization tube is formed in one piece having only one axis of symmetry.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Son.

Regarding claim 25, Son shows all of the recitations set forth in claim 14, however Son does not expressly disclose any of the recited the processes by which the atomization tube is formed. It is however noted that the recitations of claim 25 are merely product by process recitations. The patentability of a product does not depend on its method of production. If the

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product in the product-by-process claim is the same as or an obvious variant from a product in the prior art, the claim is unpatentable even though the prior product was made by a different process (see MPEP 2113). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the atomization tube of Son from at least one of the processes recited in claim 25.

Regarding claims 26 and 27, Son shows all of the recitations set forth in claim 18, however Son does not expressly disclose specific diameter ranges of the bore holes, and Son does not expressly disclose optimal ratios between a diameter and a length of the bore holes. It would have been obvious to one having ordinary skill in the art at the time the invention was made to determine optimal bore hole diameters and optimal diameter-to-length ratios of the bore holes of Son, since it has been held where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

### ***Response to Arguments***

12. Applicant's arguments, see pages 8-9 of the "Remarks" section of the response filed January 22, 2009 with respect to the applicability of the prior art to Grieve (US Patent Application Publication No. 2002/0108309) to claims 14-22 under 35 U.S.C. § 102(b) and to claims 23-27 under 35 U.S.C. § 103(a), have been considered but are moot in view of the new ground(s) of rejection.



***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darren W. Gorman whose telephone number is 571-272-4901. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on 571-272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Darren W Gorman/  
Primary Examiner, Art Unit 3752

/D. W. G./  
Primary Examiner, Art Unit 3752